



**Annual Report on Operations**

**2001**

March 31, 2002

Honorable Parris N. Glendening, Governor  
Honorable Kathleen Kennedy Townsend, Lt. Governor  
State Capitol  
Annapolis, Maryland

On behalf of the Board of Directors of TEDCO—the Maryland Technology Development Corporation—we are pleased to present this *Annual Report on Operations 2001*.

TEDCO was created by the General Assembly to “assist in transferring to the private sector and commercializing the results and products of scientific research and development conducted by colleges and universities; assist in the commercialization of technology developed in the private sector; and foster the commercialization of research and development...to create and sustain businesses throughout all regions of the State.” Formal activity of the Corporation began in September 1999, with the hiring of an Executive Director, and full operations began in July 2000.

In its first 18 months of operations TEDCO has made significant progress in identifying gaps in the technology commercialization process, and developing innovative programs to fill those gaps. Highlights of these accomplishments include:

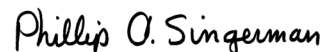
- Established the State’s first sustained program of connecting companies to federal research facilities, by sponsoring 12 “technology showcases” attracting over 1,000 entrepreneurs, researchers and economic development officials to such labs as the National Security Agency, NASA-Goddard, Aberdeen Proving Ground, Indian Head Naval Surface Warfare Center, Pax River Naval Air Warfare Center, and Beltsville Agricultural Research Center.
- Leveraged \$2 million in competitive federal grants from the Economic Development Administration, the National Science Foundation, the Small Business Administration, the Naval Air Systems Command, and NASA. These programs assist small companies to access federal technologies and funding, and involve more than 30 organizations, including the State’s historically black research universities.
- Coordinated a groundbreaking study of the “eReadiness” of communities and companies in the State’s underserved areas, leveraging a \$100,000 grant from the U.S. Department of Commerce, \$110,000 in corporate sponsorships, with a TEDCO commitment of \$100,000.
- Organized the State’s first comprehensive and professionally managed business incubation program, providing challenge grants to encourage “best practices,” feasibility studies for new incubators, funding for facilities construction, a sophisticated economic impact analysis, and an incubator company awards program. TEDCO investments of \$1.9 million leveraged \$7.5 million dollars for this program.
- Developed novel R&D funding programs targeted at critical gaps in the innovation process, including the University Technology Development Fund, the Federal Lab Partnership Program, and the Maryland Technology Transfer Fund.
- Stimulated the creation of a \$120 million, privately managed, early stage venture fund, with a State commitment of \$4 million. The fund’s first Maryland investment built a new company around technology developed by two University of Maryland researchers, and licensed from the NIH.

We are extremely grateful for the support provided by your Administration, particularly DBED Secretary David Iannucci, and for the personal leadership of Lt. Governor Kathleen Kennedy Townsend. We trust that TEDCO will continue to earn your confidence as the Board of Directors exercises its responsibilities on behalf of the State and its citizens.

Sincerely,



Beverly B. Byron  
TEDCO Board Chair



Phillip A. Singerman, Ph.D.  
TEDCO Executive Director

# Organizational Background

## Corporate Governance

TEDCO was created by the State legislature in 1998 to “assist in transferring to the private sector and commercializing the results and products of scientific research and development conducted by colleges and universities; assist in the commercialization of technology developed in the private sector; and foster the commercialization of research and development...to create and sustain businesses throughout all regions of the State.”

The Corporation, a “body politic and corporate and constituted as a public instrumentality of the State,” is governed by a 15-member Board, appointed by the Governor for four year terms with the approval of the Senate, and includes the Secretary of the Department of Business and Economic Development as an ex-officio member.

TEDCO Board members must be residents of Maryland and represent the nonprofit research sector, venture capital financing, experience in technology-based businesses, the general public, and colleges or universities. All are leaders in their sectors and represent the major geographic regions of the State. The Board is extremely diverse, over 40% of its members are women or minority group members.

## TEDCO Board of Directors

*Beverly Byron*, Byron Butcher Associates, *Chairman*\*\*  
*James S. Burns*, President, MedPointe Capital Partners, LLC, *Vice-Chairman*\*\*  
*William E. Hanna, Jr.*, *Treasurer*\*\*  
*Eugene M. DeLoatch, Ph.D.*, Dean, School of Engineering, Morgan State University, *Secretary*, \*  
*Frank A. Adams*, President and CEO, Grotech Capital Group†  
*Gregory V. Billups*, President and CEO, Systems, Maintenance & Technology, Inc.†  
*Monty L. Deel*, President and CEO, 3Di, LLC†  
*William W. Destler, Ph.D.*, Provost and Senior Vice-President, University of Maryland, College Park#†  
*Wayne T. Hockmeyer, Ph.D.*, Chairman, Medlummune#  
*David S. Iannucci*, Secretary, Maryland Department of Business and Economic Development  
*Richard C. “Mike” Lewin*, Senior Managing Director, Legg Mason Wood Walker†  
*André Lynch*, President and CEO, Ingenium Corporation†  
*Theodore O. Poehler, Ph.D.*, Vice Provost for Research, Johns Hopkins University†  
*Steve Walker*, President, Steve Walker Associates†  
*Jeannette Lee White*, Chairwoman and CEO, Sytel, Inc.†

\* *Executive Committee*

# *Finance & Audit Committee*

† *Technical Advisory Committee*



### TEDCO BOARD LEADERSHIP

*Standing left to right:*  
*Phillip Singerman, Ph.D., Executive Director, David S. Iannucci, DBED Secretary, James Burns, Vice-Chairman.*

*Seated left to right:*  
*Eugene M. DeLoatch, Ph.D., Secretary, William E. Hanna, Jr., Treasurer, Beverly Byron, Chairman.*

***"I'm convinced that TEDCO is going to have more of an impact on the state's economy for the next five to 20 years. It's exceeded my expectations dramatically."***

***—Richard C. "Mike" Lewin, Senior Managing Director, Legg Mason Wood Walker, Inc.***

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***"With more than a year under its belt, TEDCO's list of initiatives continues to grow. Its limited budget—when compared to other states—hasn't stopped it from creating technology transfer programs with federal laboratories and universities and establishing grants for incubators in the state."***

***—The Baltimore Business Journal, March 9, 2001***

During 2001 the Board met in January, March, May, July, September and November, in meetings generally lasting three hours. An Executive Committee composed of the Officers of the Corporation meets periodically, as does the Finance and Audit Committee. The Board also appoints members to Technical Advisory Committees on Investment Funds, University Technology Transfer, Federal Lab Partnerships and Business Incubation.

At its Annual Meeting in September, 2001, the TEDCO Board of Directors elected officers, reviewed the audited financial statements, approved an FY2003 budget submission to the State of \$3.25 million for operations and demonstration programs, and \$5 million for a direct capital appropriation to TEDCO for investments in technology development activities. Arthur Andersen serves as TEDCO's independent financial auditor, and TEDCO's FY2001 financial statement received an unqualified ("clean") opinion.

## **Public Accountability**

Members of the Senate Budget & Tax Subcommittee on Education, Business & Administration attended the September Board meeting, and Lt. Governor Kathleen Kennedy Townsend attended the November Board meeting.

During the legislative session in Spring 2001, TEDCO staff testified before House and Senate committees on its FY2002 operating budget and capital budget, legislation to create an incubation program, and on development of a statewide strategy on biotechnology. In the Fall, TEDCO testified before a joint House/Senate committee on technology programs, and organized a site visit to MedImmune's manufacturing facilities in Frederick.

In December 1999, Lt. Governor Kathleen Kennedy Townsend had announced a three-year \$7.5 million commitment for operations and demonstration programs set aside from returns on DBED's Enterprise Investment Fund. In Spring 2001, the General Assembly approved a second installment of \$2.5 million in operating funds and a \$5 million capital appropriation for business incubation facilities, and passed legislation creating the Maryland Technology Incubator Program.

TEDCO and DBED have an extremely close working relationship:

- DBED provides TEDCO's program funds via a grant agreement, and provides legal counsel through the Office of the Attorney General.
- TEDCO serves on DBED's Enterprise Investment Fund Advisory Board.
- On behalf of DBED, TEDCO manages the University Technology Development Fund and Maryland Technology Transfer Fund, oversees DBED grants to the Technology Councils, and coordinates the Cigarette Restitution Fund commercialization process.
- TEDCO managed the review process for investing DBED's capital in an early stage fund—Toucan Capital II—and facilitates the State's relationship with the fund.
- TEDCO organized the State's sponsorship of the Mid-Atlantic Venture Fair.
- DBED staff served on the selection committee for TEDCO's Incubator Companies of the Year Awards.
- TEDCO staff served on the selection committee for DBED's Techno Rising Star Awards.
- DBED and TEDCO staffs serve on joint committees to review university technology development and business incubation proposals.
- TEDCO supports the activities of the Maryland Economic Development Commission by providing perspectives on technology-related issues.

# Maryland Technology Development Corporation (TEDCO) 2001 Committee Roster

## EXECUTIVE COMMITTEE

Beverly Byron, Byron Butcher Associates, *Chair*  
James Burns, MedPointe Capital Partners, *Vice Chair*  
William E. Hanna, Jr., *Treasurer*  
Eugene DeLoach, Ph.D., Morgan State University,  
*Secretary*

## FINANCE & AUDIT COMMITTEE

James S. Burns, MedPointe Capital Partners, *Chair*  
Beverly Byron, Byron Butcher Associates, *ex-officio*  
William Destler, Ph.D., University of Maryland,  
College Park  
Wayne T. Hockmeyer, Ph.D., MedImmune  
William E. Hanna, Jr.

## NOMINATING AND BOARD POLICY COMMITTEE

Richard C. "Mike" Lewin, Legg Mason Wood  
Walker, *Chair*  
William E. Hanna, Jr.  
Theodore Poehler, Ph.D., Johns Hopkins University

## SBIC SELECTION COMMITTEE

Frank A. Adams, Grotech Capital, *Chair*  
James Burns, MedPointe Capital Partners  
David S. Iannucci, Secretary, DBED  
Steve Walker, Steve Walker Associates

## EDA PROJECT ADVISORY COMMITTEE

Lt. Governor Kathleen Kennedy Townsend,  
*Honorary Chair*  
André Lynch, Ingenium Corporation, *Chair*  
Linda Burek, State Chief Information Officer,  
*Co-Vice Chair*  
Dr. Catherine Gira, Frostburg State University,  
*Co-Vice Chair*

## NSF PROJECT

Eugene DeLoach, Ph.D., Morgan State University,  
*Principal Investigator*  
LeeRoy Bronner, Ph.D., Morgan State University,  
*Co-Principal Investigator*  
Phillip A. Singerman, Ph.D., *Co-Principal Investigator*

## BUSINESS INCUBATION COMMITTEE

Jeannette Lee White, Sytel, Inc., *Co-Chair*  
Monty Deel, 3Di, LLC, *Co-Chair*  
Dr. Christine Copple, NeuralStem  
Dave Edgerley, Montgomery County Department  
of Economic Development  
Newt Fowler, Venable Baebear Howard  
Sandra Long, Deputy Secretary, DBED  
Hans Mayer, Maryland Economic Development  
Corporation  
Neal Noyes, Economic Development Representative  
Michael Reischman, NASA  
Frank Spasoff, PricewaterhouseCoopers  
Nora Zietz, Abell Venture Fund

## FEDERAL LABORATORY PARTNERSHIP PROGRAM COMMITTEE

Gregory Billups, Systems, Maintenance &  
Technology, Inc., *Chair*  
Richard Brooks, Technology Extension Service  
Beverly Byron, Byron Butcher Associates  
Monty Deel, 3Di, LLC  
Mike Hayes, DBED  
Kathy Manning, Technology Council of Maryland  
Jay Winchester, Walter Reed Army Institute of  
Research, Fort Detrick

## UNIVERSITY TECHNOLOGY TRANSFER COMMITTEE

Theodore Poehler, Ph.D., Johns Hopkins  
University, *Chair*  
Scott Bass, University of Maryland,  
Baltimore County  
Eugene DeLoach, Ph.D., Morgan State University  
William Destler, Ph.D., University of Maryland,  
College Park  
Wayne T. Hockmeyer, Ph.D., MedImmune  
Steve Walker, Steve Walker Associates

*"Our efforts will be to work to ensure TEDCO is funded, positioned and developed as the primary source of information, resources and services for our technology industry..."*

—Kathy Manning, CEO,  
High Technology  
Council of Maryland,  
Washington Techway

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*"TEDCO is extremely important to the tech community."*

—Penny Lewandowski,  
Executive Director,  
Greater Baltimore  
Technology Council



*"The Innovation and Technology Index makes it clear that Maryland has even greater assets to leverage and investments to be made in our now mature industry. This report will help to direct our strategic focus in order to maintain and increase Maryland's national position."*

—David S. Iannucci  
Secretary,  
Maryland  
Department of  
Business and  
Economic  
Development

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*"The eReadiness assessment will help Maryland remain at the forefront of technology development. By partnering with Maryland's business community, this assessment will give critical insight into the needs of the business sector and help us identify areas that need additional assistance."*

—Kathleen Kennedy  
Townsend,  
Lt. Governor

## Technology Benchmarking and Strategic Planning

TEDCO has identified the development of a comprehensive State strategy to support technology development as an essential step in leveraging the State's technology assets. Three major studies were released in 2001 and two other major studies are underway.

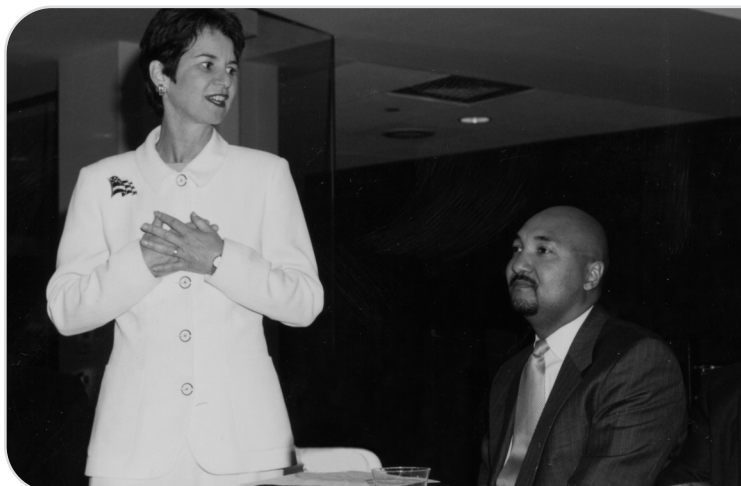
The *Maryland Innovation and Technology Index 2001* was prepared by the Johns Hopkins Institute for Policy Studies. The study compared Maryland's standing in economic performance, dynamics, and resources with five other states—Massachusetts, New Jersey, North Carolina, Pennsylvania, and Virginia—chosen because they are geographically proximate competitors or acknowledged East Coast technology leaders. TEDCO convened two advisory committees to provide guidance in the development of the *Index*, the highlights of which were presented at the Legislature's Technology Summit in Annapolis in February 2001. The Executive Summary of the study was presented to the legislature in March; the full text of the study on a CD-ROM was released in July 2001.

Among its many findings was the importance of federally funded research in Maryland's economy: in 1998 the federal government conducted \$4.8 billion of research in Maryland, more than twice as much as in the next highest state, California. By contrast, Maryland falls well behind its competitor states in industry performed R&D. The report found

that "some competitor states with more modest technology endowments have achieved better economic performance" in licenses, university spinouts, venture capital, and initial public offerings.

*Building the New Economy: Implementing the InfoComm Revolution in the National Capital Area*, was released in February 2001. At the request of DBED, and in collaboration with the University of Maryland, College Park, TEDCO took the lead in coordinating Maryland's participation in this major study of the region's information technology industry, an update of a 1998 survey of the Greater Washington region's Information/Communications industry, which had identified a quiet digital revolution in the region's economy—the emergence of InfoComm as the region's fastest growing industry. TEDCO served as liaison for Maryland's participation in the new study: representatives of the State's academic, economic development, and high-tech communities served on the study's advisory panel, 60 Maryland CEO's were selected for interviews, and three focus groups were conducted with Maryland firms.

*Maryland's Technology Development Investments FY91-01* was presented to the legislature in February 2001. Conducted at the request of the Senate Budget and Taxation Committee, TEDCO commissioned Battelle Memorial Research Institute to compile an inventory of the State's investments



*Lt. Governor Kathleen Kennedy Townsend, Honorary Chair and André Lynch, Chair of eReadiness Maryland, preside at the kick-off meeting, May 2001, at USinternetworking, Annapolis, Maryland.*

in technology development programs from FY1991 through FY2001. The inventory found that during the 11 year period, the State had invested just over \$565 million: \$225 million for direct programs, \$125 million for capital investments, and \$215 million for direct assistance to technology companies. The study also found that in FY2000 \$28 million for technology programs was provided through 20 programs managed by seven different organizations.

## ***eReadiness Maryland: Assessing Our Digital Opportunities***

On December 14, 2000, U.S. Senator Barbara Mikulski announced that TEDCO had received a \$100,000 grant from the U.S. Department of Commerce's Economic Development Administration, to assess the e-commerce readiness of communities and companies in distressed areas of Maryland. TEDCO has committed \$100,000 in local matching funds and raised \$100,000 in private contributions. The State has committed \$45,000 to extend the study to include all regions of the State.

This project is using a methodology created by the Computer Systems Policy Project and successfully implemented in Ohio. The project will identify infrastructure capabilities; determine regional strengths and weaknesses in terms of capacity, access, and use of infrastructure; assist in the development of regional action agendas; and measure progress on achieving goals.

A statewide management committee and regional steering committees were created to oversee the project, and a corporate governing board was established to provide private sector advice. On May 31, 2001, Lt. Governor Kathleen Kennedy Townsend, Honorary Chair of the project, joined the governing board at USinternetworking for a kick-off ceremony.

André Lynch, President, Ingenium Corporation chairs the project. Co-chairs are Linda Burek, Chief Information Officer of the State of Maryland and Dr. Katherine Gira, President of Frostburg State University. Corporate sponsors include: Allegheny Ventures, Comcast, Dimension Data, FIBERPlus, Hughes Network Systems, IBM, Logicon FDC, MITC, USinternetworking, and Verizon.

Project related activities in 2001 included presentations at the Eastern Shore Technology Summit,

the Forum for Rural Maryland Rural Summit and the Maryland Technology Showcase, and briefings to the Maryland Technology Extension Service and the Maryland Department of Business and Economic Development.

Also during 2001, four sets of data were collected and are currently being analyzed. The data collected included detailed mapping of the State's infrastructure, including lit fiber, wireless, cable modem, and DSL assets; testing of the performance of the most basic access to the Internet, that being the dial-up infrastructure; and extensive phone surveys of households and businesses throughout the State to determine current usage and future needs. The outcome of this analysis will be publicly introduced in early 2002 and will be the catalyst for a series of meetings with local stakeholders across the State to determine local strategies to take advantage of the State's telecommunications assets, promote a vibrant technology-based economy, and bridge the digital divide.

## ***Entrepreneurship Activities and State Geneology Study***

In July 2000, in response to a proposal prepared by TEDCO, the National Governors' Association (NGA) selected Maryland to participate in an 18-month national benchmarking program on state programs to support entrepreneurship. Maryland's proposal, *eMaryland—A Platform for Entrepreneurship in the New Economy*, builds upon the State's recent groundbreaking legislative initiatives in e-commerce, as a base for encouraging entrepreneurship, particularly in underserved areas.

A 12-member working group including the private sector, universities, the legislature and the Administration represents the State in this process. In collaboration with the Lt. Governor's office, TEDCO organized a September 2000 kick-off meeting in Annapolis with NGA and the National Commission on Entrepreneurship (NCOE) and facilitated a candid discussion with entrepreneurs. In May 2001, TEDCO organized a meeting of 30 private/public representatives to review the progress of the project. In July, the State's working group participated in a Best Practices Policy Academy to review entrepreneurial policies in other States. Activities are planned for 2002.

To further the project's goals, TEDCO and DBED commissioned a "geneology" of Maryland's technology companies, which traces the roots of technology companies in each of six major categories of the State's industries: biomedical, information technology, private R&D, energy/chemicals/

## ***"MARYLAND SEEKS THE DEPTH OF ITS 'DIVIDE'***

*The study will help find the weak spots in the state's connectivity, which is important for encouraging economic development and job growth. TEDCO kicked off the study May 31 with support from businesses and a \$100,000 grant from the U.S. Department of Commerce."*

—Potomac Tech Journal,  
June 11, 2001

*"TEDCO's Board of Directors are delighted that such an outstanding group of companies, all with strong ties to the Maryland economy, have stepped forward both with technical expertise and financial commitment, to take a proactive role to ensure the success of this assessment."*

—André Lynch,  
CEO and President,  
Ingenium Corp.

*"Through this study, we will be able to predict Maryland's entrepreneurial future and determine the role that our research institutions, tech transfers and commercializing technology play in the state's entrepreneurial success. By building stronger links between federal laboratories and the private sector, we continue to strengthen the formation of successful economic development."*

—Marsha Schachtel,  
Johns Hopkins University  
Institute for Policy Studies

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*"It's good public policy to study and capitalize on the federal research that is so important to the region. As technology wends its way into different parts of the country, it has become clear that it will grow in different ways in different places. Government will continue to be an important source of fuel in the Potomac region. Those who figure out how to ignite that fuel will be doing the region a favor."*

—Potomac Tech Journal,  
April 30, 2001

materials, defense and aerospace, and high technology machinery and instruments. The project will primarily focus on the pathways taken by the people who lead technology companies in Maryland today. Results of the study will be presented at House Speaker Casper Taylor and Senate President Mike Miller's Legislative Technology Summit in February 2002.

### **State Program Assessments Prepared by TEDCO**

In Joint Chairman's Narrative, the House Appropriations and Senate Budget Committees directed TEDCO to "prepare and submit to the committees by January 1, 2002, an assessment of programs that transfer technology to the private sector and commercialize the results of scientific research and development conducted at colleges, universities, and federal laboratories." In collaboration with DBED, two programs have been initially selected for the assessment; the Maryland Health Care Product Development Corporation, to be conducted with the Technology Council of

Maryland, and the Maryland Bioprocessing Center, to be conducted with MDBio.

The Maryland Healthcare Product Development Corporation, a nonprofit corporation, was created in 1994 to provide early stage capital to the biomedical industry in Maryland and the surrounding region. It was capitalized with \$5.5 million from NASA and \$350,000 from DBED, and invested \$5.6 million in nine companies by 2000.

The Maryland Bioprocessing Center, a biomanufacturing facility, was created in 1994 to provide a shared production facility for emerging biotech companies. It was constructed with \$16.5 million from the State, \$0.6 million from the City of Baltimore for land and utilities, \$1.5 million from the Federal Economic Development Administration, and \$3 million from the facility manager, the BioScience Contract Production Corp. MDBio, a non-profit corporation, owns the facility.

In addition, TEDCO has been asked to comment on the technology transfer policies of the University System of Maryland, including the proposed revision of the Intellectual Property Policy.

## **Access to Technology: Partnerships with Federal Labs**

Federal laboratories conducting research and development in Maryland—such as the National Institutes of Health, NASA's Goddard Space Flight Center, the Army Research Laboratory, the three Naval Warfare Centers and the National Institute of Standards and Technology—are a significant component of Maryland's competitive advantage in the creation of technology based enterprises. However, because of prior legislative restrictions and national security considerations, federal labs have not generated economic spin-offs commensurate with their capabilities. Consequently, TEDCO has developed a Federal Laboratory Partnership Program to link Maryland's technology companies with the resources of the federal laboratories.

The program has two major components: the sponsorship of "technology showcases" acquainting companies with the lab capabilities; and matching grants up to \$20,000 to offset the costs of joint ventures between companies and laboratories.

The showcases provide detailed briefings on institutional capabilities and tech transfer programs, including tours of labs and facilities, and generally attracted 75-100 attendees to each event.

Showcases were preceded by extensive outreach to the business community in Maryland and were co-sponsored by the Technology Council of Maryland (TCM), the American Society of Mechanical Engineers (ASME), DBED, and various local economic development organizations. During 2001, TEDCO sponsored or co-sponsored nine showcases with the following federal facilities:

**Aberdeen Proving Ground—Soldiers  
Biological and Chemical Command and  
Aberdeen Test Center (SBCCOM) (January)**

**USDA's Beltsville Agricultural Research Center  
(May)**



**Aberdeen Proving Ground Tech Showcase  
(June)**

**NASA Goddard Space Flight Center (June)**

**NASA Medical Diagnostic Imaging  
Conference (July)**

**Naval Surface Warfare Center—Indian Head  
Division (July)**

**Naval Surface Warfare Center—Carderock  
Division (October)**

**Naval Air Warfare Center—Pax River  
(October)**

**National Security Agency—(November)**

TEDCO approved three \$20,000 grants, funding joint agreements between companies and federal laboratories. Chesapeake PERL, a start-up company based at the TAP incubator in College Park, is working with SBCCOM on high purity protein production for biological warfare defense

applications. Syntonics Corporation, a start-up company based at the NeoTech incubator in Howard County, is working with the Johns Hopkins University Applied Physics Lab on satellite time-keeping technology. Wickford Technologies, affiliated with the Emerging Technology Center in Baltimore, is developing a low drag flow sensor for fluid flow applications with Indian Head Naval Surface Warfare Center.

In support of the Maryland Technology Showcase (December 5-6), TEDCO organized a Technology Transfer Corridor in cooperation with the Federal Laboratory Consortium. Representatives of the Army Research Lab, Naval Surface Warfare Center at Indian Head, NAVAIR Technology Commercialization Initiative at Pax River, USDA—Agriculture Research Service, National Cancer Institute, NIH Office of Tech Transfer, US Army Medical Research, Ft. Detrick and the Federal Lab Consortium exhibited in the Technology Corridor. TEDCO also organized a major symposium on “Nanotechnology Research in Maryland” in collaboration with the Regional Nanotechnology Forum.

*“The Navy’s focus is now on research and development rather than just producing explosives. We want to show Maryland that we have patented technologies. Business owners need to know about them for their own success and to bring a bigger base of technology business to Maryland.”*

—Robert Kavetsky,  
Program Director,  
Naval Surface Warfare  
Center—Indian Head  
Division

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## Access to Technology: Partnerships with Universities

The University Technology Development Fund (UTDF), supported by \$1 million from DBED’s Enterprise Investment Fund returns, is designed to address one of the needs identified as a critical pillar in a technology development strategy by the technology transfer managers at research universities in the State. The objective of the UTDF is to help universities conduct pre-commercial feasibility research on very early stage technologies that have significant commercialization potential. Examples of appropriate projects would be animal studies on therapeutic or diagnostic technology proven only in tissue culture, prototype development of a promising software package, or enhanced patent protection. The UTDF program provides reimbursable grants of up to \$50,000 per project.

A TEDCO Technical Advisory Committee, created to provide program oversight, met in January, April, August and December, and a joint DBED/TEDCO staff committee met periodically to review each

proposal (supplemented as necessary by outside consultants). Nine briefings were conducted at seven institutions involving 55 individuals; including tech transfer directors, deans, department chairs, and individual researchers. As of December 31, 32 proposals had been received, 13 proposals had been approved for funding, and four more had been recommended for revision and resubmission. Projects to date include:

### **Johns Hopkins University**

- Development of Reactive Joining Technology, Dr. Tim Weihs

### **Johns Hopkins University Applied Physics Laboratory**

- Wireless, MRI-Compatible Physiological Telemetry System, Dr. Howard Feldmesser
- Monitoring Corrosion in Concrete, Dr. R. Srinivasan

*“HOPKINS PROFS PUT  
NANOTECHNOLOGY  
TO THE TEST—  
Reactive  
Nanotechnologies  
has big plans for its  
tiny invention. A  
startup founded by  
two Johns Hopkins  
University professors,  
Reactive has lined up  
a corporate investor-  
partner and a  
\$50,000 grant from  
TEDCO.”*

—Potomac Tech Journal,  
January 14, 2001

***“TEDCO’s University Technology Development Fund fills an important gap in the innovation process. These special resources allow promising technologies to progress to a stage where a fuller commercial assessment can be made.”***

—Theodore O. Poehler, Ph. D., Vice Provost for Research, Johns Hopkins University

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***“PANNING FOR GOLD—Changing attitudes about technology transfer in Maryland are poised to turn out a growing number of products and companies from academic and federal research in the years to come, observers predict.”***

—Potomac Tech Journal, February 18, 2001

#### **University of Maryland Baltimore**

- Development of Dendrimer-Linked Nitroxides as MRI Contrast Agents for Arthritis, Dr. Gerald Rosen
- Novel Retinoic Acid Metabolism Blocking Agents: Potential Therapeutics in Cancer, Dr. Vincent Njar
- Novel Ion Channel Activator, Dr. Michelle Trucksis
- Neuroprotective Activity of ICP10 PK Delivered with HSV-2 Vector, Dr. Laure Aurelian
- LASSBio-294: Mechanism of Action and Anti-Ischemic Effect, Dr. Edson Albuquerque
- Development of ALT Isoenzyme Assay for Diagnostic Use, Dr. Da-Wei Gong

#### **University of Maryland, Baltimore County**

- Data Mining for Mobile Applications, Dr. Hillol Kargupta

#### **University of Maryland, College Park**

- Amidinate-Based Catalysts for Ziegler-Natta Polymerization, Dr. Lawrence Sita
- Development of a Micro-Condenser for Source-Integrated Smart Cooling Modules, Dr. M. M. Ohadi
- Self-Assembled Ionophores: Efficient Methods for Separation of Cesium Salts, Dr. Jeffrey Davis

### ***Maryland Technology Transfer Fund***

DBED tasked TEDCO to review the “Federal/Extended Maryland Industrial Partnership Program,” which supported companies working with federal laboratories and two universities—Johns Hopkins and Morgan State. TEDCO reviewed program material, analyzed each project, conducted interviews with selected companies, and distributed a survey on economic impact to all company participants. TEDCO recommended that the program be modified to provide seed stage investments in companies partnering with these institutions, and for FY2002 DBED has set aside \$430,000 for this activity.

The renamed Maryland Technology Transfer Fund will provide investments up to \$50,000, with matching requirements that vary according to the size of the company and the requirement that companies repay a royalty from gross revenues. Funds may be used for research and development activities intended to develop a specific technology or technology package for commercialization. Applicants submit a commercialization plan, which is reviewed by a joint TEDCO/DBED working group, with policy guidance provided by a TEDCO Board Technical Advisory Committee. Proposals may be submitted at any time, and award decisions are

made within 60 days. Applicants must have a formal collaboration agreement with an eligible lab or university to be eligible.

### ***Cigarette Restitution Fund***

Pursuant to legislation passed by the General Assembly in 2000, research institutions receiving funding from the Cigarette Restitution Fund are required to enter into a Memorandum of Understanding (MoU) with DBED, TEDCO, and the State Department of Health and Mental Hygiene (DHMH). TEDCO has taken the lead in developing the State’s approach. Agreements were finalized in June 2001 with the University of Maryland Medical Group and Johns Hopkins University. Both institutions held their first meetings with the State in June to discuss their plans for translating research results into clinical treatments, and review meetings were held in the fall.

### ***TEDCO Website—[www.marylandtedco.org](http://www.marylandtedco.org)—and Community of Science***

In a unique partnership, TEDCO has been able to make available to Maryland’s technology community, through its website—[www.marylandtedco.org](http://www.marylandtedco.org)—access to extensive research and development databases, developed and maintained by the Community of Science (COS), a Johns Hopkins spinout located in Baltimore. Through this arrangement, small Maryland-based companies have free and unlimited access to 4,000 profiles of researchers at 14 participating Maryland universities and research institutions, 16,000 federal funding opportunities access the Federal Register, Commerce Business Daily, and MEDLINE free of charge and in a very user-friendly format.

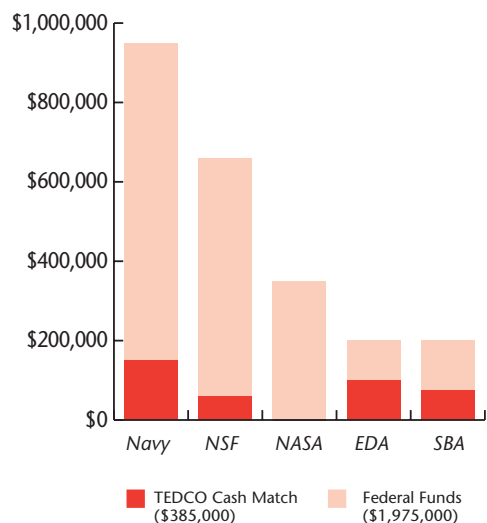
In Spring 2001, TEDCO contracted with the Canton Group to redesign the overall functionality and look of the website and in July 2001 with RESI at Towson University to host the new site. An example of traffic on the new site is demonstrated by the October figures: 56,590 hits, 2,121 visitors with an average session length of 53 minutes.

# Federal Funding Support

Since the fall of 2000, TEDCO has leveraged nearly \$2 million in federal funds for the state from the National Science Foundation (NSF), NASA, the Navy, the Small Business Administration (SBA) and the Federal Economic Development Administration to support the State's technology development programs. These external resources enable TEDCO to provide technical assistance to small companies, support minority-servicing institutions, facilitate tech transfer projects with federal laboratories, and identify needs in technologically underserved communities.

These special resources capitalize on the State's investments in TEDCO; in each case TEDCO

## TEDCO Funds Leverage Federal Resources



provided the required local cash matching funds, organized the consortium, wrote the proposal, and coordinated the program. TEDCO's success in securing these resources is based upon its ability to pro-actively identify the needs of companies and organizations, and its flexibility in allocating staff and financial resources to respond to these opportunities.

Although committing only \$385,000 in cash match, TEDCO has leveraged nearly \$2 million in federal funds; such commitment of non-State funds to TEDCO directed activities are a demonstration of TEDCO's value as recognized by third parties.

## Navy-Funded Naval Aviation Systems Command (NAVAIR) Technology Commercialization Initiative (NTCI)

The Patuxent Partnership (TPP), a business-community consortium in St. Mary's County, asked TEDCO to assist in the development of a proposal to the Navy for a Naval commercialization program. To support this activity, \$800,000 was available from the Navy. In June, TEDCO and the Pax Partnership began contract negotiations with the Naval Air Warfare Center at Pax River.

In August TEDCO and TPP signed a 15 month contract with the Naval Air Warfare Center Aircraft Division (NAWCAD) at Patuxent River to establish the NAVAIR Technology Commercialization Initiative (NTCI). The NTCI was formally announced at the TEDCO Technology Showcase at Patuxent River on October 30.

Under the NTCI, TEDCO and TPP will collaborate in outreach activities to identify businesses, located primarily in the tri-county southern Maryland area, to carry out technology development in collaboration with NAWCAD. TEDCO and TPP will also jointly administer a grant program that will distribute \$700,000 in seed funding to companies.

## NSF-Funded Maryland Technology Partnership for Innovation (MTPI)

In October 2000, U.S. Senator Barbara Mikulski announced an award from the National Science Foundation (NSF) of \$600,000 over two years, creating the MTPI, a proposal developed by TEDCO with Morgan State University. The MTPI unites TEDCO and Morgan State with the Baltimore Development Corporation's Emerging Technology Center, the Chesapeake Bay Region Technical Center for Excellence, and the Prince George's County Economic Development Corporation. The purpose of the project is to assist companies in economically distressed communities—the City of Baltimore, the Eastern Shore, and Enterprise Zones in Prince George's County—to access federal technologies. TEDCO serves as a co-principal investigator of the

*"The NAVAIR Technology Commercialization Initiative is an investment that the Maryland congressional delegation believes in and that leverages the technology base already in existence at NAWCAD."*

—Rep. Steny H. Hoyer

*"We think there are more opportunities to commercialize the technology of the federal agencies and research institutions for creating more jobs, expanding existing companies and stimulating new businesses."*

—Joseph James, President, Prince George's County Economic Development Corporation

*“MTPI has played a critical role in helping Maryland’s small and disadvantaged businesses navigate through the State’s many federal institutions and optimize opportunities to find, assess and deploy federally developed technologies and expertise into the marketplace.”*

—Sen. Paul S. Sarbanes,  
(D), Maryland



*Senator Paul S. Sarbanes addresses the first Board meeting of the Maryland Technology Partnership for Innovation (MTPI) at the Beltsville Agricultural Research Center, November 2001.*

*“As a start-up company with limited staff and budget, we could not afford the considerable resources that ECBC has to offer. TEDCO’s Federal Laboratory Partnership Program allows us to accelerate development of our platform technology for producing recombinant proteins and expand commercialization opportunities.”*

—Terry Chase,  
President,  
Chesapeake PERL

project, and has organized monthly management meetings of the consortium.

Extensive project activities have been achieved during the first year. Among the highlights are:

- Morgan State University developed a computer information model to document and guide the technology transfer process.
- TEDCO awarded funding to two federal laboratories to partner with emerging companies: Aberdeen Proving Ground with Chesapeake PERL (Prince George’s County) and Indian Head Naval Surface Warfare Center with Wickford Technologies (Baltimore).
- Prince George’s County received \$250,000 from HUD to fund a technology commercialization center.
- The Chesapeake Bay Region Technical Center of Excellence (TCE) received \$50,000 from public and private sources to conduct a feasibility study for a business incubator.
- The Emerging Technology Center facilitated relationships between D-Fusion and NASA-Goddard; Projected Reality and NASA-Goddard; Emergent BioNet and Johns Hopkins University; Reactive Nanotechnology and Johns Hopkins; and A&G Pharmaceuticals and the University of Maryland, Baltimore.

In November 2001, MTPI convened its first Annual Technology Symposium at the Beltsville Agricultural Research Center. Seventy-five representatives of universities, federal labs and companies heard Senator Paul Sarbanes speak about the importance of technology in Maryland. Panels of federal tech

transfer directors and entrepreneurs spoke, and a senior NSF official addressed the group.

## ***NASA Mid-Atlantic Regional Technology Transfer Center***

In April 2001, TEDCO signed an agreement with the Technology Commercialization Center (TeCC) to foster the commercialization of NASA technology. DBED Secretary Iannucci witnessed the agreement at a ceremony.

TeCC was awarded a five-year contract from NASA’s Langley Research Center, through the Regional Technology Transfer Center (RTTC) program, to promote NASA capabilities in the mid-Atlantic region (Delaware, Maryland, Pennsylvania, Virginia, West Virginia). TEDCO will serve as the tech transfer entity for Maryland, receiving up to \$350,000 over five years for outreach and technical assistance to companies.

In addition to sponsorship of two technology outreach events with NASA Goddard, in November, TEDCO staff attended a briefing with other TeCC members at NASA Langley.



## SBA-Funded Maryland Minority Small Business Innovation Research Initiative

In October 2001, the SBA awarded TEDCO \$125,000 under the Federal and State Technology (FAST) Partnership Program. The purpose of the FAST program is to increase competition for the federal SBIR (Small Business Innovation Research) program, over \$1 billion set aside for small businesses from the research budgets of ten federal agencies.

TEDCO had taken the lead in submitting a proposal on behalf of the State through which Maryland's

historically black colleges and universities (HBCU's) will transfer technology and assist small businesses, particularly minority-owned businesses, to participate in the SBIR program. Partners in the consortium include TEDCO, DBED, Morgan State University, Bowie State University, University of Maryland Eastern Shore, Jade Research Corporation, Battelle Memorial Research Institute, Community of Science, Inc., and the Maryland Small Business Development Centers. The overall proposal totaled \$300,000, with TEDCO providing the local match of \$75,000. An initial planning meeting of participants was held in November.

*"Not only do our underprivileged communities need access to technology, but our small businesses need that access, too. That is why I am a strong advocate for partnerships such as TEDCO's...."*

—Senator Barbara A. Mikulski (D), Maryland

## Access to Capital

### Technology Development Investment Fund

The Technology Development Investment Fund is intended to provide seed stage investment capital for companies working in partnership with Maryland universities or federal laboratories. It is uniquely distinguished by the high leverage of the State's investment, independent, professional management, a focus on companies commercializing technologies developed in Maryland institutions, and a Maryland office presence. In addition to providing the first investments in

companies developing university technologies in partnership with universities and federal laboratories, the fund would serve as a source of follow-on funding for continuing development.

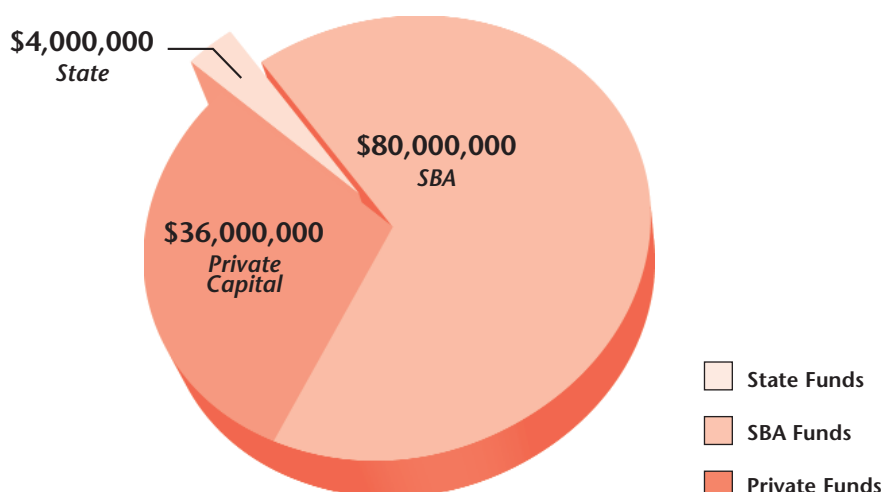
After a rigorous selection process, in which the nationally recognized law firm of Hogan and Hartson assisted TEDCO's Board, the Directors unanimously recommended the selection of Toucan Capital Partners as the fund manager. DBED Secretary Iannucci formally committed \$4 million from the Enterprise Investment Fund to Toucan.

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*"We generally look for, at the very least, somebody who's applied for a patent. We're not as likely to fund some guy who just thinks he's got a great idea, and doesn't have any particular protection to it or validation. We're piggybacking on the fact that some money and some effort has been spend on this, at least to the point that it's patentable."*

—Bob Hemphill, Managing Partner, Toucan Capital

### Sources of Capital for Toucan Capital II





*"The [Maryland Technology Incubator Program] also will help Maryland capitalize on its abundance of scientific research and inventions from its universities and federal laboratories.*

*—Del. Kumar Barve (D),  
Montgomery County*

In August 2001, Toucan closed on \$36 million in additional private capital, and after extensive due diligence, the Small Business Administration approved their designation as an SBIC. In December, the SBA awarded Toucan its license. Toucan is now awaiting its commitment from the SBA for up to \$80 million in additional funding.

TEDCO assists Toucan in identifying Maryland companies, introduces Toucan to universities and federal laboratories, coordinates DBED's relationship with Toucan, and actively supported Toucan's application to the SBA. TEDCO staff holds bi-weekly briefings on investment opportunities with Toucan and the DBED Investment Financing Group staff, and has introduced Toucan to potential investors.

## **Capital Connections 2001**

TEDCO organized the State's sponsorship of the Mid-Atlantic Venture Association's investors fair, held May 29-30 in Baltimore. The State was the only Premier Sponsor, with funding provided by DBED, TEDCO, and Baltimore Washington International Airport (BWIA). TEDCO staff served as a coach to a Maryland company that presented at the fair. Over 800 representatives attended from technology companies and venture capital firms across the country.

# **Technology Commercialization through Business Incubation**

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*"HOWARD'S NEOTECH GETS \$54K— After less than two years in operation, the Howard County Economic Development Authority's NeoTech Incubator has won national attention. The Kauffman Center for Entrepreneurial Leadership gave the NeoTech Incubator a grant of \$54,450 to run a program created by the Kansas City, Mo. based group."*

*—Baltimore Business Journal, January 2001*

TEDCO has identified business incubation as a proven vehicle for technology commercialization. With the strong support of DBED, TEDCO developed the State's first comprehensive, business incubation program. TEDCO's activities are guided by an active Business Incubation Technical Advisory Committee, appointed by the Board of Directors, and composed of private and public experts in business incubation, entrepreneurship, and real estate development.

TEDCO's business incubation program has two goals: to assist incubator managers to provide high quality services to their tenants, and to support the development of new business incubators.

## **Maryland Incubator Excellence Program**

To enable Maryland's business incubators to have access to best practices, TEDCO commissioned the National Business Incubation Association (NBIA) to survey national and international best practices in business incubation and identify key programs that could be adopted by Maryland-based incubators. In an introduction to this comprehensive study, *Best Practices in Business Incubation*, (July, 2000) the Executive Director of the National Business

Incubation Association (NBIA) stated, "This was the first time any state has worked with NBIA to benchmark best practices as the basis of an incubator program."

Utilizing the information contained in this report, in 2001, seven incubators received challenge grants of \$25,000 to implement best practices, each matched by \$25,000.

### **Howard County Economic Development Authority; NeoTech Incubator (Howard County)**

*To provide better screening methods for potential incubator clients, develop training program for potential clients, prepare other incubator entrepreneurs for business.*

### **UMBC Technology Center (Baltimore County)**

*To staff a "help desk" as a resource for entrepreneurs and an Idea Lab for students to develop business concepts.*

### **Emerging Technology Center (ETC) (Baltimore City)**

*To create a seed investment fund for tenant companies in the incubator.*

**Technology Advancement Program (TAP)**

(Prince George's County)

*To create an IIMS (Incubator Information Management System) software tool to assist incubator managers in tracking space utilization and client interactions.*

**Technical Innovation Center at**

**Hagerstown Community College (TIC)**

(Washington County)

*To develop an angel investor and professional assistance network.*

**Maryland Technology Development Center (MTDC)**

(Montgomery County)

*To provide intellectual property and technology commercialization services on-site at the incubator.*

**Prince George's County EDC**

(Prince George's County)

*To enhance professional staffing of the incubator.*

**Incubator Companies  
of the Year Awards**

TEDCO organized the first Maryland Incubator Companies of the Year Awards, with Saul Ewing LLC and American Express Tax and Business Services as co-sponsors. After a rigorous selection process, overseen by a committee of venture capital managers, seven winners and six incubator managers were recognized on May 30th at the World Trade Center in Baltimore. Former DBED Secretary Richard C. "Mike" Lewin introduced the seven winners to 200 attendees.

**NeuralStem Biopharmaceuticals**

**(Technology Advancement Program)—**

**Best Incubator Company**

*Development of central nervous system stem cell technology to reproduce nerve cells to treat neurodegenerative disorders of the brain and spinal cord.*

**Claragen (TAP)—**

**Best Biotech Company**

*Developing products based on recombinant human CC10 protein to treat lung and renal disease.*

**Protiveris (MTDC)—**

**Best Life Sciences Company**

*Developing advanced biosensors for proteomic drug discovery applications to understand biological function at the protein level.*

**A2Z (NEOTech)—**

**Best eBusiness Company**

*Provides on-line trade shows in the international arena.*

**Visicu (ETC)—**

**Best Infotech Company**

*Developing a new standard for critical care delivery by providing a continuous virtual ICU to hospitals.*

**BConvergent (MTDC)—**

**Best Communications Company**

*Solutions that eliminate the amount of hardware, wiring, and labor required to establish and maintain small and medium sized offices.*

**Guilford Pharmaceuticals—**

**Best Graduate Company**

*Development of drug delivery systems and therapeutic and diagnostic products for the treatment and prevention of neurological disorders.*

**"BATTELLE UNVEILS  
HQ PLANS—**

**Columbus, Ohio-based Battelle Memorial Institute, a technology development organization that works with government and commercial customers to help create new products, is breaking ground on its new East Coast regional headquarters... Battelle officials said that TEDCO was instrumental in bringing them to Maryland."**

—Baltimore Business Journal, August 24, 2001

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**"The winners represent the best of the best of Maryland's technology companies. We're confident these companies will continue to thrive in Maryland's prospering technology community."**

—Brian S. Meritt,  
Managing Director,  
American Express Tax  
and Business Services



*Richard C. "Mike" Lewin announces the winners of the Incubator Companies of the Year Awards, World Trade Center, Baltimore, May 2001.*

*"What we wanted to do is come together as a formal organization to support one another, and to make business incubation as effective as possible. The whole purpose is to improve the quality of business incubation."*

—Ann Lansinger  
President, Maryland  
Business Incubation  
Association

## **Feasibility Studies to Assess New Business Incubators**

To identify opportunities for new business incubators, TEDCO solicited proposals from county governments and higher education institutions for feasibility studies to be conducted by independent consultants. Local sponsors were required to provide a 1:1 cash match. On May 14th at a ceremony at the University of Maryland, Baltimore, attended by over 75 people, including Delegate Verna Jones, awards totaling \$148,500 were announced for seven organizations. In addition, TEDCO sponsored a training session, "Best Practices in Completing an Incubator Feasibility Study," for award recipients and potential applicants.

In November 2001, TEDCO announced the award of two additional feasibility studies, at \$25,000 each, to the Town of Sykesville and the Chesapeake Bay Region Technical Center of Excellence. A total of \$248,500 was provided in cash matching funds by the nine participating communities.

**Allegheny Ventures**  
(Washington County)—\$25,000

**Anne Arundel Economic Development Authority**  
(Anne Arundel County)—\$22,500

**Chesapeake Bay Region Technical Center of Excellence**  
(Talbot County)—\$25,000

**Frederick County Office of Economic Development**  
(Frederick County)—\$25,000

**Harford County Office of Economic Development**  
(Harford County)—\$25,000

**Town of Sykesville**  
(Carroll County)—\$25,000

**University of Maryland-Baltimore**  
(Baltimore City)—\$25,000

**Southern Maryland Higher Education Center**  
(St. Mary's County)—\$16,000

**University of Maryland College Park**  
(Prince George's County)—\$10,000

To further highlight the successes of incubators and incubator companies, TEDCO initiated a monthly incubator newsletter, reporting on company and organizational activities. Stimulated in part by

these activities, Maryland's incubator managers have re-instituted efforts to create an association of business incubators in the State. Ann Lansinger, Manager of the ETC, was elected President, Ed Sybert, Manager of the TAP Incubator, Vice President, and Paul Levin, Manager of UMBC Tech Center, was elected Treasurer. In October, an organizational meeting of the Maryland Business Incubation Association (MBIA) was held at the TAP incubator at College Park.

## **Capital Facilities Program**

In recognition of the importance of business incubators to the State's technology economy, during the 2001 legislative session, the Administration recommended, and the General Assembly approved, a \$5 million capital appropriation to TEDCO for new business incubator facilities. In addition, the General Assembly passed, and the Governor signed, a business incubator facilities program authorizing TEDCO to manage a program to provide matching funding to local governments and higher education institutions.

Working with the Business Incubator Technical Advisory Committee, TEDCO and DBED staff developed policy guidelines and application materials. The regulations outlined six factors to be used in determining eligibility for funding, which include quality of feasibility study, impact on current incubators, higher-education relationship, smart growth location, specialized facilities and cooperation among incubators.

On October 24, 2001, the Board of Public Works approved the transfer of \$3.75 million for TEDCO's incubator facilities program. On November 8, following approval of proposals by TEDCO's Board of Directors, the Lt. Governor announced two awards for new business incubators:

### **Silver Spring Innovation Center (SSIC): Montgomery County Department of Economic Development**

SSIC is a private/public undertaking that is a response to Montgomery County's increased demand for information technology incubator space while making an investment in the revitalization of the Arts and Technology District in Silver Spring. The county and the JBG Companies will partner to design the SSIC as part of a two-building commercial development known as the "Silver Spring GATeWAY" project. It will be comprised of Class "A" office space of which an 11,000 square foot section will be dedicated to the SSIC incubator. It will be located at East West Highway and Blair Mill

*"A significant milestone has been reached in the quest for a technology business incubator for the tri-county Southern Maryland Region. The Southern Maryland Higher Education Center has been awarded a \$16,000 matching grant from TEDCO to conduct an independent study to determine the feasibility of a technology business incubator in Southern Maryland."*

—Calvert Independent,  
June 20, 2001





State Technology Coordinator Cherise Seals, Delegate Verna Jones, UMB President David Ramsey and TEDCO Executive Director Phillip Singerman at the Feasibility Study Awards Celebration, May 2001.

*"There's a collegiality that exists among a lot of the incubator companies. People are seeing that Silver Spring offers the amenities of an urban area. You have the Metro as well as the road system. It could be a real shining star eventually in the Silver Spring area and make it one of the country's new technology centers."*

—Larry Cunnick,  
Chairman, Legislative  
Committee, Maryland  
High Technology  
Council

## Sources and Uses of Capital

### Silver Spring Innovation Center

Private	\$375,000
TEDCO	\$500,000
State	\$500,000
County Appropriation	\$1,000,000
<b>TOTAL</b>	<b>\$2,375,000</b>

Road in Silver Spring, MD, adjacent to the new Discovery Channel development.

### Emerging Technology Center @ Hopkins Eastern

This project is a 45,000 square foot communication, information and emerging high technology business center. It will be located on the third floor of the historic former Eastern High School now owned by Johns Hopkins University. This project is to support emerging technology that may come from a university, a federal lab or private entrepreneur by providing affordable office space and business assistance services.

The Center will become part of a larger economic development strategy being employed by the City to bring academic and private sector talent together and create an environment for technology transfer synergy. ETC at Eastern will offer an increase in high-level job creation for Baltimore City with new jobs and will help to retain area graduates from Johns Hopkins University who might otherwise leave the region.

## Sources and Uses of Capital

### Emerging Technology Center @ Johns Hopkins Eastern

State (DBED)	\$500,000
City/BDC	\$750,000
TEDCO	\$1,000,000
Federal/EDA	\$1,075,000
Johns Hopkins Loan	\$1,492,862
Historic Tax Credit	\$1,852,073
<b>TOTAL</b>	<b>\$6,669,935</b>

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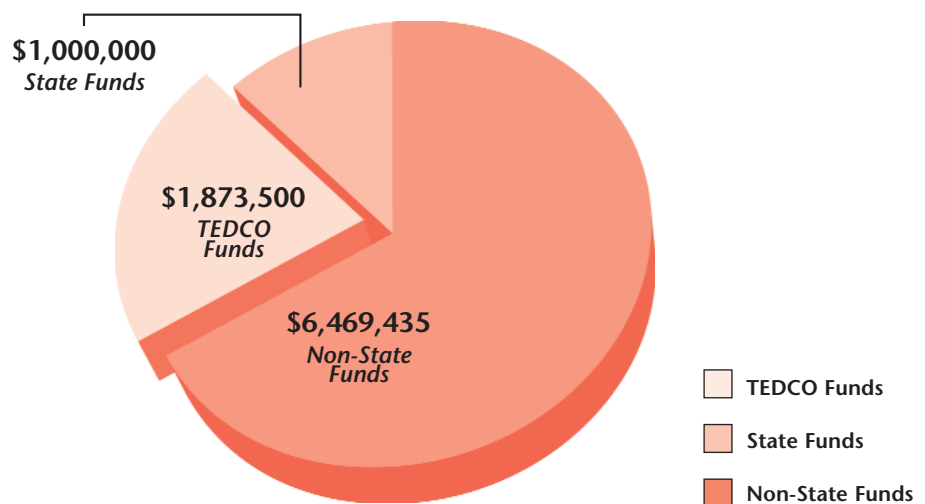
*"The legislature continues to support TEDCO's mission. 'I'm very enthusiastic about it and I think it's turned out great. That incubator program has really worked very well,' said Del. Shane Pendergrass of Columbia, vice chair of the science and technology subcommittee which oversees policy about TEDCO."*

—The Washington Post,  
February 21, 2002

*"The fact that TEDCO even embarked on this study is extremely meaningful. TEDCO's continued interest in business incubation and university partnerships in Maryland, and its vision to improve the state's incubators is a testament to TEDCO's foresight, especially given the significant economic impact we have shown in the study."*

—Mark Jacobson  
Managing Director, RESI

## TEDCO Business Incubator Program



As the above chart demonstrates, TEDCO resources and guidance has focused nearly \$10 million on business incubation activities in Maryland, with nearly 70% from non-State sources.

into account the economic impacts of firms that are served or have been served by the incubators.

The study was initiated in December 2000. To conduct the evaluation, RESI disseminated surveys to 125 incubator tenants and graduates. The survey instrument was designed to elicit responses regarding past and current levels of employment, revenues, and expenditures. The responses form the basis of the evaluation.

Through the multiplier effect, the six Maryland incubators under consideration in this study had a total economic impact ranging from roughly 2,200 to 6,800 jobs, paying over \$36,000 on average in 2000. This compares to the average annual wage in Maryland of \$35,000. Moreover, incubator firms generate between \$184 and \$530 million dollars in gross state product and between \$31 and \$96 million dollars in taxes annually.

## Impact of Business Incubators on Maryland's Economy

On November 14, the House Subcommittee on Science and Technology conducted a hearing on the State's Business Incubation Program at the NeoTech Incubator in Howard County. Chairman Kumar Barve, Vice-Chair Shane Pendergrass, and Delegates Tony Fulton and Mary Ann Love heard presentations by a panel of incubator managers and incubator tenants. RESI, a regional economic research institute located at Towson University, released its path-breaking study on the economic impact of business incubators in Maryland.

The study estimated the combined economic impact of the six Maryland incubators by taking

*"This study formalizes the long-held belief of incubator managers that companies are provided with a healthy head start through incubation and contribute greatly to the state's economy. A company going through an incubator has a far greater chance of growth and survival than a company going it alone without the help of an incubator."*

—Ed Sybert,  
Director, Technology  
Advancement Program,  
University of Maryland



## TEDCO Staff

*Morgan Allyn*, Program Manager,  
Federal Research Funding Opportunities

*Michael Ambrose*, Tech Transfer Specialist,  
ASME Fellow

*Anita Balachandra*, Program Manager,  
Federal Lab Partnerships

*Timoth Copney*, Executive Assistant

*Steven L. Fritz, Ph.D.*, Director, Technology Transfer

*Ron Hawkins*, Federal Technology Transfer Specialist

*David Houle*, Program Manager, eCommerce

*Christine Johnson*, Project Coordinator

*Linda Saffer, Ph.D.*, Technology Analysis Specialist

*Heidi Sheppard*, Program Manager,  
Incubator Programs

*Phillip A. Singerman, Ph.D.*,  
Executive Director and President

*Bill Stroud*, Chief Administrative Officer

*Renée M. Winsky*, Deputy Executive Director

## TEDCO Professional Advisors

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*Administaff, Inc.*, Professional Employer Organization

*Arthur Andersen*, Independent Public Auditor

*Bank of America*, Banking Institution

*Bennett, Hutt & Co., L.L.P.*,  
Professional Accounting Firm

*The Canton Group*, Website Development Services

*Carnegie Morgan*, IT Services Provider

*Maryland Attorney General's Office*,  
Corporate Legal Counsel

*MGH Advertising, Inc.*,  
Public Relations and Advertising

*RESI*, Website Hosting Services

*Thomas Associates, L.L.P.*, Pension Advisors

*Toucan Capital Corporation*, Fund Manager



**[www.marylandtedco.org](http://www.marylandtedco.org)**

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